

Quantitative Methods Boot Camp

Homework Exercises for Day 1

1. Make an array with the follow values by directly entering it and store it in **x**.

```
3 4 5
2 1 2
3 2 1
2 3 1
```

2. Do the following:
 - a. Calculate the size of the array **x** from 1
 - b. Use the **size** command to return the number of rows
 - c. Use the **size** command to return the number of columns
 - d. Use the **length** command to return the number of rows
 - e. Use the **length** command to return the number of columns
3. For all these assume that for each letter the x array is as defined after question 1
 - a. Retrieve the value from the 3rd row 2nd column of **x**.

What will these do?

- b. **x=[x;3]**
- c. **y=[x;1,2,3]**
- d. **x(:,4)=x(:,2);**
- e. **x.*(1./x)**
- f. **x+2*x**
- g. **x([4,2])=x(2,3)**

What will these return?

- a. **x(3,5)**
- b. **x([2,3,1],[2,1])**
- c. **x(5)**
- d. **x(5+x(5))**
- e. **x([x(5), x(2,1)+1],mean([x(4,2),x(end)]))**
- f. **x(end,end)**
- g. **x(end)**
- h. Make a new array y with two copies of x side by side.
- i. Make a new array y with two copies of x one on top of the other.

4. What do the following code snippets do?
- a. `1:10`
 - b. `1:3:10`
 - c. `start=1 step=2 stop=100`
`length(start:step:stop)`
5. Start by typing
`t=(1:100)*pi/25;`
- Now do the following:
- a. Plot `sin(t)` on the y axis and t on the x axis.
 - b. Add to this plot (i.e. don't overwrite it) `cos(t)` on the y axis in red circles.
 - c. Now add `tan(t)` in green and make the `LineWidth` equal to 2.
 - d. Plot a green line going from the point (0,0) to the point (20,10).

Updated 8/18/11 by JW.

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